

CPC**COOPERATIVE PATENT CLASSIFICATION****A01G**

HORTICULTURE; CULTIVATION OF VEGETABLES, FLOWERS, RICE, FRUIT, VINES, HOPS OR SEAWEED; FORESTRY; WATERING (picking of fruits, vegetables, hops, or the like [A01D 46/00](#); plant reproduction by tissue culture techniques [A01H 4/00](#); devices for topping or skinning onions or flower bulbs [A23N 15/08](#); propagating unicellular algae [C12N 1/12](#); plant cell culture [C12N 5/00](#))

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

[A01G 33/02](#) covered by [A01G 33/00](#)

A01G 1/00

Horticulture; Cultivation of vegetables (labels or name-plates [G09F 3/00](#), [G09F 7/00](#))

A01G 1/001

. { Horticultural methods }

A01G 1/002

. { Growing turf }

A01G 1/004

.. { Pre-cultivated sod; Machines for laying it down }

A01G 1/005

.. { Planted mats, e.g. for covering roofs }

A01G 1/007

.. { Flat containers, e.g. for covering roofs }

A01G 1/02

. Cultivation of asparagus

A01G 1/04

. Cultivation of mushrooms (composts or fertilisers for cultivating mushrooms [C05](#))

A01G 1/042

.. { Growing rooms with treatment apparatus; Cultivation racks or trays }

A01G 1/044

.. { Apparatus for treating mushroom compost }

A01G 1/046

.. { Cultivation bags or bottles }

A01G 1/048

.. { Mycorrhiza }

A01G 1/06

. Grafting (grafting-wax [A01N 3/04](#))

A01G 1/08

. Edging for beds, lawns, or the like, e.g. using tiles

A01G 1/12

. Tools for cultivating turf; Sweeping apparatus for lawns; Garden rollers (machines for treating meadows or lawns [A01B 45/00](#); lawn-mowers [A01D 34/00](#))

A01G 1/125

.. { Machines for sweeping lawns and for collecting or disintegrating lawn debris }

A01G 3/00

Cutting implements specially adapted for horticultural purposes; Delimbing standing trees (felling trees [A01G 23/08](#); hand-held cutting tools suitable for other use [B26B](#))

A01G 3/002

. { for comminuting plant waste (comminuting by cutting implements in general [B02C 18/00](#)) }

A01G 3/02

. Secateurs; Flower or fruit shears

- A01G 3/021 . . { characterized by the arrangement of pivots }
- A01G 3/025 . . having elongated or extended handles
- A01G 3/0251 . . . { Loppers, i.e. branch cutters with two handles (hedge shears [A01G 3/0475](#)) }
- A01G 3/0253 { characterized by the arrangement of pivots }
- A01G 3/0255 . . . { Tree pruners, i.e. pruning shears carried at the end of a pole }
- A01G 3/0256 { actuated by pulling a rope or the like }
- A01G 3/0258 { actuated by a shaft transmission, e.g. inside the pole }
- A01G 3/033 . . having motor-driven blades
- A01G 3/0335 . . . { having elongated or extended handles }
- A01G 3/037 . . . the driving means being an electric motor

- A01G 3/04 . Apparatus for trimming hedges, e.g. hedge shears
- A01G 3/0408 . . { specially adapted for trellis work, e.g. machines for pruning vine or the like (preliminary pruning vines [A01G 17/023](#); defoliating machines [A01G 17/026](#)) }
- A01G 3/0417 . . { Guiding frames for trimming hedges }
- A01G 3/0426 . . { Machines for pruning vegetation on embankments and road-sides }
- A01G 3/0435 . . { Machines specially adapted for shaping plants, e.g. topiaries }
- A01G 3/047 . . portable
- A01G 3/0475 . . . { Hedge shears }
- A01G 3/053 . . . motor-driven
- A01G 3/0535 { with rotatable knives }

- A01G 3/06 . Hand-held edge trimmers or shears for lawns { (with a flexible rotating cutter [A01D 34/416](#)) }
- A01G 3/062 . . { Motor-driven edge trimmers }
- A01G 3/065 . . { Hand operated shears for lawns }
- A01G 3/067 . . { Motor-driven shears for lawns }

- A01G 3/08 . Other tools for pruning, branching or delimbing standing trees
- A01G 3/081 . . { Manual cutting tools not otherwise provided for, e.g. pruning hooks }
- A01G 3/083 . . { Manual pruning saws (saws in general [B27B](#)) }
- A01G 3/085 . . { Motor-driven saws for pruning or branching (saws in general [B27B](#)) }
- A01G 3/086 . . . { Chain saws (chain saws in general [B27B 17/00](#)) }
- A01G 3/088 . . . { Circular saws (circular saws in general [B27B 5/00](#)) }

A01G 5/00**Floral handling**

- A01G 5/02 . Apparatus for binding bouquets or wreaths
- A01G 5/04 . Mountings for wreaths, or the like; Racks or holders for flowers
- A01G 5/06 . Devices for preserving flowers (chemical substances [A01N 3/02](#); flower vases [A47G 7/06](#))

A01G 7/00**Botany in general (cultivation without soil [A01G 31/00](#))**

- A01G 7/02 . Treatment of plants with carbon dioxide ([greenhouses therefor A01G 9/18](#))
- A01G 7/04 . Electric or magnetic treatment of plants for promoting growth
- A01G 7/045 .. { with electric lighting }
- A01G 7/06 . Treatment of growing trees or plants, e.g. for preventing decay of wood, for tingeing flowers or wood, for prolonging the life of plants
- A01G 9/00** **Cultivation of flowers, vegetables or rice in receptacles, forcing-frames, or greenhouses (cultivation without soil [A01G 31/00](#); { turfing of roofs [E04D 11/002](#) })**
- A01G 9/006 . { Labels or label holders for flower pots }
- A01G 9/02 . Receptacles, e.g. flower-pots or boxes ([hanging flower baskets, holders or containers for flower-pots A47G 7/00](#)); Glasses for cultivating flowers
- A01G 9/021 .. { Pots formed in one piece; Materials used therefor }
- A01G 9/022 .. { Pots for vertical horticulture }
- A01G 9/023 ... { Multi-tiered planters }
- A01G 9/024 ... { Hanging flower pots and baskets }
- A01G 9/025 ... { Containers and elements for greening walls ([for covering roofs A01G 1/007](#)) }
- A01G 9/026 .. { Foldable pots }
- A01G 9/027 .. { Pots connected in horizontal rows }
- A01G 9/028 .. { Multi-compartmented pots }
- A01G 9/04 . Flower-pot saucers
- A01G 9/042 .. { Combinations of a saucer and a flower pot attached together }
- A01G 9/045 .. { Trays for receiving multiple pots }
- A01G 9/047 .. { Channels or gutters, e.g. for hydroponics }
- A01G 9/06 . Devices for cleaning flower-pots
- A01G 9/08 . Devices for filling-up flower-pots { or pots for seedlings }; Devices for setting plants { or seeds } in pots
- A01G 9/081 .. { Devices for filling-up pots }
- A01G 9/083 .. { Devices for setting plants in pots }
- A01G 9/085 .. { Devices for setting seeds in pots }
- A01G 9/086 .. { Devices for repotting }
- A01G 9/088 .. { Handling or transferring pots }
- A01G 9/10 . Pots { (or other receptacles) } for seedlings, { saplings, cuttings or other young plants (foldable pots) }; Soil { (or like) } blocks for seedlings; { Plant substrate bodies }; Means for forming soil-blocks
- A01G 9/1006 .. { Tools, machines and methods for forming soil blocks or compressed pots, e.g. from peat }
- A01G 9/1013 .. { soil blocks or compressed pots }
- A01G 9/102 .. { Planting receptacles specially adapted for remaining in the soil after planting }

- A01G 9/1026 .. { Seed or shoot receptacles }
- A01G 9/1033 .. { Sterile receptacles, e.g. for tissue culture }
- A01G 9/104 .. { Units comprising two or more connected receptacles }
- A01G 9/1066 .. { Grids for supporting several receptacles }
- A01G 9/1073 .. { Receptacles specially adapted for air layering }
- A01G 9/108 .. { Handling or transporting of soil blocks or seedlings }
- A01G 9/1086 .. { Composition of plant substrate bodies (plant growth regulators [A01N](#) ; fertilizers [C05](#) ; soil conditioning or soil stabilizing materials [C09K 17/00](#)) }

- A01G 9/12 . Supports for plants; Trellis for strawberries or the like ({ trellis-work for vines [A01G 17/06](#) }; stays for trees, props for vines [A01G 17/14](#))
- A01G 9/122 .. { Stakes }
- A01G 9/124 ... { Means for holding stakes upright in, on, or beside pots }
- A01G 9/126 .. { Wirespool supports }
- A01G 9/128 .. { Fixing of plants to supports, e.g. by means of clips }

- A01G 9/14 . Greenhouses ([cloches A01G 13/04](#); { glazing bars, glazing clips therefor [E04D 3/06](#) })
- A01G 9/1407 .. { of flexible synthetic material }
- A01G 9/1415 ... { with double or multiple walls }
- A01G 9/1423 .. { Greenhouse bench structures }
- A01G 9/143 .. { Equipment for handling produce in greenhouses }
- A01G 9/1438 .. { Covering materials therefor; Materials for protective coverings used for soil and plants, e.g. films, canopies, tunnels or cloches }
- A01G 9/1469 .. { with double or multiple walls }
- A01G 9/1476 .. { Greenhouse gutters ([gutters in general E04D 13/064](#)) }
- A01G 9/16 .. Dismountable or portable greenhouses; { Greenhouses with sliding roofs }

- A01G 9/18 . Greenhouses for treating plants with carbon dioxide or the like

- A01G 9/20 . Forcing-frames; Lights

- A01G 9/22 . Shades or blinds for greenhouses, or the like { ([canopies A01G 13/0206](#)) }
- A01G 9/222 .. { Lamellar or like blinds ([in general E06B 9/26](#)) }
- A01G 9/225 .. { Inflatable structures }
- A01G 9/227 .. { rolled up during non-use ([in general E06B 9/08](#)) }

- A01G 9/24 . Devices { or systems } for heating, ventilating, regulating temperature, or watering, in greenhouses, forcing-frames, or the like
- A01G 9/241 .. { Arrangement of opening or closing systems for windows and ventilation panels }
- A01G 9/242 ... { for greenhouses with flexible coverings }
- A01G 9/243 .. { Collecting solar energy ([in general F24J](#)) }
- A01G 9/245 .. { Conduits for heating by means of liquids, e.g. used as frame members or for soil heating }
- A01G 9/246 .. { Air-conditioning systems }
- A01G 9/247 .. { Watering arrangements }

- A01G 9/26 . . . Electric devices
- A01G 11/00** **Sterilising soil by steam** (soil-conditioning or soil-stabilising materials [C09K 17/00](#))
- A01G 13/00** **Protecting plants** (apparatus for the destruction of vermin or noxious animals [A01M](#) ; use of chemical materials therefor, composition of protective materials, e.g. grafting wax, [A01N](#) ; { coverings around trees forming part of a road [E01C 9/005](#) })
- A01G 13/02 . . Protective coverings for plants; { Coverings for the ground; } Devices for laying-out { or removing } coverings { (covering materials [A01G 9/1438](#)) }
- A01G 13/0206 . . . { Canopies, i.e. devices providing a roof above the plants }
- A01G 13/0212 . . . { for individual plants, e.g. for plants in pots }
- A01G 13/0225 . . { Wind breakers, i.e. devices providing lateral protection of the plants }
- A01G 13/0231 . . { Tunnels, i.e. protective full coverings for rows of plants (dismantable or portable greenhouses [A01G 9/16](#)) }
- A01G 13/0237 . . { Devices for protecting a specific part of a plant, e.g. roots, trunk or fruits }
- A01G 13/0243 . . { Protective shelters for young plants, e.g. tubular sleeves }
- A01G 13/025 . . { Devices for laying-out or removing plant coverings (for ground coverings [A01G 13/0287](#)) }
- A01G 13/0256 . . { Ground coverings }
- A01G 13/0262 . . . { Mulches, i.e. covering material not-pre-formed in mats or sheets ([A01G 13/0281](#) takes precedence; composition of mulches [C09K 17/52](#)) }
- A01G 13/0268 . . . { Mats or sheets, e.g. nets or fabrics ([A01G 13/0281](#) takes precedence) }
- A01G 13/0275 . . . { Films }
- A01G 13/0281 . . . { Protective ground coverings for individual plants, e.g. for plants in pots (coverings around trees forming part of a road [E01C 9/005](#)) }
- A01G 13/0287 . . . { Devices for laying-out or removing ground coverings }
- A01G 13/0293 . . . { Anchoring means for ground coverings }
- A01G 13/04 . . Cloches { i.e. protective full coverings for individual plants (dismantable or portable greenhouses [A01G 9/16](#); individual canopies [A01G 13/0212](#)) }
- A01G 13/043 . . . { with flexible coverings }
- A01G 13/06 . . Devices for generating heat, smoke, or fog in gardens, orchards, or forests, e.g. to prevent damage by frost ({ bee-smokers [A01K 55/00](#); fumigators for destroying insects [A01M 13/006](#); for destroying rats [A01M 17/004](#) }; chemical aspects of generating smoke or mist [C06D 3/00](#); heating devices in general, see the appropriate classes, e.g. [F24](#))
- A01G 13/065 . . { Frost protection by generating fog or by spraying }
- A01G 13/08 . . Mechanical apparatus for circulating the air
- A01G 13/10 . . Devices for affording protection against animals, birds, or other pests { (protective shelters for young plants [A01G 13/0243](#)) } (traps [A01M 23/00](#) { scaring or repelling devices [A01M 29/00](#) }; pesticides [A01N](#))
- A01G 13/105 . . { Protective devices against slugs, snails, crawling insects or other climbing animals }
- A01G 15/00** **Devices or methods for influencing weather conditions** (dispersing fog in general [E01H 13/00](#))

A01G 16/00 **Cultivation of rice ([A01G 9/00](#) takes precedence)**

A01G 17/00 **Cultivation of hops, vines, fruit trees, or like trees**

- A01G 17/005 . { Cultivation methods }
- A01G 17/02 . Cultivation of hops or vines
- A01G 17/023 .. { Machines for priming and/or preliminary pruning of vines, i.e. removing shoots and/or buds ([trimming apparatus for trellis work \[A01G 3/0408\]\(#\)](#)) }
- A01G 17/026 .. { Machines for removing leaves of vines }
- A01G 17/04 . Supports for hops, vines, or trees
- A01G 17/06 .. Trellis-work
- A01G 17/08 ... Tools for attaching hops, vines, or boughs to trellis-work; Tying devices
- A01G 17/085 { Tying instruments; Espalier machines }
- A01G 17/10 .. Holders for boughs or branches
- A01G 17/12 .. Tree-bands
- A01G 17/14 .. Props; Stays
- A01G 17/16 ... Devices for driving-in or pulling-out props
- A01G 17/18 . Means for filling-up wounds in trees

A01G 21/00 **Devices for hanging-up harvested fruit**

A01G 23/00 **Forestry**

- A01G 23/003 . { Collecting felled trees }
- A01G 23/006 .. { Log skidders }
- A01G 23/02 . Transplanting, uprooting, felling or delimbing trees ([delimbing standing trees \[A01G 3/00\]\(#\)](#))

NOTE

Tree feeding devices are covered by group [B27B 25/00](#)

- A01G 23/04 .. Transplanting trees; Devices for grasping the root ball, e.g. stump forceps; Wrappings or packages for transporting trees
- A01G 23/043 ... { Transplanting devices for grasping, undercutting or transporting the root ball ([A01G 23/046](#) takes precedence) }
- A01G 23/046 ... { Transplanting devices using elements to be driven into the ground for making a container around the root ball }
- A01G 23/06 .. Uprooting or pulling up trees; Extracting or eliminating stumps
- A01G 23/062 ... { Pulling up trees or stumps }
- A01G 23/065 { in a substantially vertical plane }

- A01G 23/067 . . . { by comminuting the tree stumps }
- A01G 23/08 . . Felling trees (axes [B26B 23/00](#); saws, sawing machines [B27B](#))
- A01G 23/081 . . . Feller-bunchers, i.e. with bunching by felling head ([A01G 23/083](#) takes precedence)
- A01G 23/083 . . . Feller-delimbers
- A01G 23/085 having the shearing head mounted on a first boom and the delimbing head mounted on a second boom
- A01G 23/087 . . . Shearing apparatus or the like specially adapted for felling trees ([A01G 23/081](#), [A01G 23/083](#), [A01G 23/093](#) take precedence)
- A01G 23/089 having two or more shears
- A01G 23/09 of the percussion type
- A01G 23/091 . . . Sawing apparatus specially adapted for felling trees ([A01G 23/081](#), [A01G 23/083](#), [A01G 23/093](#) take precedence)
- A01G 23/093 . . . Combinations of shearing, sawing or milling apparatus specially adapted for felling trees
- A01G 23/095 . . Delimbers ([A01G 23/083](#) takes precedence; manufacture of wood shavings, chips, powder, or the like, per se [B27L 11/00](#))
- A01G 23/0955 . . . { Self-propelled along standing trees }
- A01G 23/097 . . . having a fixed delimbing head
- A01G 23/099 . . Auxiliary devices, e.g. felling wedges

- A01G 23/10 . Tapping of tree-juices, e.g. caoutchouc, gum
- A01G 23/12 . . Knives or axes for tapping
- A01G 23/14 . . Tapping-spouts; Receptacles for juices

- A01G 25/00** **Watering gardens, fields, sports grounds, or the like** (special apparatus or adaptations for fertilising-liquids [A01C 23/00](#); nozzles or outlets, spraying apparatus [B05B](#) ; gravity flow, open channel irrigation ditch systems [E02B 13/00](#))

- A01G 25/02 . Watering arrangements located above the soil which make use of perforated pipe-lines or pipe-lines with dispensing fittings, e.g. for drip irrigation ([perforated pipes](#) per se [B05B 1/20](#))
- A01G 25/023 . . { Dispensing fittings for drip irrigation, e.g. drippers }
- A01G 25/026 . . { Machines and methods for fixing the drippers in the pipe }

- A01G 25/06 . Watering arrangements making use of perforated pipe-lines located in the soil ([perforated pipes](#) per se [B05B 1/20](#); similar arrangements for drainage [E02B 11/00](#))

- A01G 25/09 . Watering arrangements making use of movable installations on wheels or the like
- A01G 25/092 . . { movable around a pivot centre }
- A01G 25/095 . . { winch-driven ([A01G 25/097](#) takes precedence) }
- A01G 25/097 . . { guided or propelled along a water supply line with supply line traversing means }

- A01G 25/14 . Hand watering devices, e.g. watering cans
- A01G 25/145 . . { with pumps }

- A01G 25/16 . Control of watering ([controlling of spraying devices](#) [B05B](#))

- A01G 25/162 . . { Sequential operation }
- A01G 25/165 . . { Cyclic operations, timing systems, timing valves, impulse operations }
- A01G 25/167 . . { Control by humidity of the soil itself or of devices simulating soil or of the atmosphere; Soil humidity sensors }

A01G 27/00 Self-acting watering devices, e.g. for flower-pots

- A01G 27/001 . { with intermittent watering means }
- A01G 27/003 . { Controls for self-acting watering devices }
- A01G 27/005 . { Reservoirs connected to flower-pots through conduits }
- A01G 27/006 . { Reservoirs, separate from plant-pots, dispensing directly into rooting medium }
- A01G 27/008 . { Component parts, e.g. dispensing fittings, level indicators }
- A01G 27/02 . having a water reservoir, the main part thereof being located wholly around or directly beside the growth substrate ([A01G 27/06](#) takes precedence)
- A01G 27/04 . using wicks or the like
- A01G 27/06 . . having a water reservoir, the main part thereof being located wholly around or directly beside the growth substrate

A01G 29/00 Root feeders; Injecting fertilisers into the roots

A01G 31/00 Hydroponics; Cultivation without soil ([A01G 33/00](#) takes precedence)

- A01G 31/001 . { Soilless culture substrates }
- A01G 31/02 . Special apparatus therefor (apparatus for cultivation in receptacles or greenhouses in general [A01G 9/00](#); self-acting watering devices [A01G 27/00](#))
- A01G 31/04 . . Hydroponic culture on conveyers
- A01G 31/042 . . . { with containers travelling on a conveyor belt or the like }
- A01G 31/045 . . . { with hanging containers travelling along a rail }
- A01G 31/047 . . . { using a rotating drum or the like }
- A01G 31/06 . . Hydroponic culture on racks or in stacked containers

A01G 33/00 Cultivation of seaweed { or algae }

A01G 2001/00 Horticulture; Cultivation of vegetables (labels or name-plates [G09F 3/00](#), [G09F 7/00](#))

- A01G 2001/008 . Growing plants or turf in soil-like layered substrates using a foil
- A01G 2001/06 . Grafting (grafting-wax [A01N 3/04](#))
- A01G 2001/065 . . Removing buds

- A01G 2003/00** **Cutting implements specially adapted for horticultural purposes; Delimbing standing trees** ([felling trees A01G 23/08](#); [hand-held cutting tools suitable for other use B26B](#))
- [A01G 2003/005](#) . Removing buds
- [A01G 2003/007](#) . Using spray
- [A01G 2003/02](#) . Secateurs; Flower or fruit shears
- [A01G 2003/023](#) . . with means for grasping the cut object
- [A01G 2003/04](#) . Apparatus for trimming hedges, e.g. hedge shears
- [A01G 2003/0443](#) . . with height-adjustable platforms
- [A01G 2003/0452](#) . . with platforms for persons
- [A01G 2003/0461](#) . . with reciprocating knives
- A01G 2005/00** **Floral handling**
- [A01G 2005/005](#) . Thorn removers
- A01G 2009/00** **Cultivation of flowers, vegetables or rice in receptacles, forcing-frames, or greenhouses** ([cultivation without soil A01G 31/00](#); { [turfing of roofs E04D 11/002](#) })
- [A01G 2009/003](#) . Plant pots consisting of two halves, allowing easy removal of the plant
- [A01G 2009/10](#) . Pots { ([or other receptacles](#)) } for seedlings, { [saplings, cuttings or other young plants \(foldable pots \)](#) }; Soil { ([or like](#)) } blocks for seedlings; { [Plant substrate bodies](#) }; Means for forming soil-blocks
- [A01G 2009/104](#) . . { [Units comprising two or more connected receptacles](#) }
- [A01G 2009/1046](#) . . . containing mineral wool
- [A01G 2009/1053](#) . . . containing superabsorbents
- [A01G 2009/106](#) . . . containing wood
- [A01G 2009/1093](#) . . for dwarf plants
- [A01G 2009/14](#) . Greenhouses ([cloches A01G 13/04](#); { [glazing bars, glazing clips therefor E04D 3/06](#) })
- [A01G 2009/1438](#) . . { [Covering materials therefor; Materials for protective coverings used for soil and plants, e.g. films, canopies, tunnels or cloches](#) }
- [A01G 2009/1446](#) . . . with perforations
- [A01G 2009/1453](#) . . . containing textile products
- [A01G 2009/1461](#) . . . containing woven structures
- [A01G 2009/1484](#) . . Glazing apparatus
- [A01G 2009/1492](#) . . Cleaning apparatus
- [A01G 2009/24](#) . Devices { [or systems](#) } for heating, ventilating, regulating temperature, or watering, in greenhouses, forcing-frames, or the like

A01G 2009/248 . . . with distillation of water

A01G 2013/00 **Protecting plants** (apparatus for the destruction of vermin or noxious animals [A01M](#) ; use of chemical materials therefor, composition of protective materials, e.g. grafting wax, [A01N](#) ; { coverings around trees forming part of a road [E01C 9/005](#) })

A01G 2013/002 . Wind breakers

A01G 2013/004 . Liquid mulch

A01G 2013/006 . with perforations

A01G 2013/008 . using straw

A01G 2013/02 . Protective coverings for plants; { Coverings for the ground; } Devices for laying-out { or removing } coverings { (covering materials [A01G 9/1438](#)) }

A01G 2013/0218 . . for removing

A01G 2013/04 . . Cloches { i.e. protective full coverings for individual plants (dismantable or portable greenhouses [A01G 9/16](#); individual canopies [A01G 13/0212](#)) }

A01G 2013/046 . . . foldable

A01G 2017/00 **Cultivation of hops, vines, fruit trees, or like trees**

A01G 2017/04 . Supports for hops, vines, or trees

A01G 2017/06 . . Trellis-work

A01G 2017/065 . . . Trellis-work for supporting vines having wire-tensioning devices

A01G 2025/00 **Watering gardens, fields, sports grounds, or the like** (special apparatus or adaptations for fertilising-liquids [A01C 23/00](#); nozzles or outlets, spraying apparatus [B05B](#) ; gravity flow, open channel irrigation ditch systems [E02B 13/00](#))

A01G 2025/003 . with an impermeable layer in the ground

A01G 2025/006 . Tubular drip irrigation dispensers mounted coaxially within water feeding tubes

A01G 2031/00 **Hydroponics; Cultivation without soil** ([A01G 33/00](#) takes precedence)

A01G 2031/002 . Substrates with a flexible envelope

A01G 2031/003 . with foam substrates

A01G 2031/005 . with mineral wool substrates

A01G 2031/006 . with means for recycling the nutritive solution

A01G 2031/007 . with superabsorbents

A01G 2031/008 . with wood